WE CLAIM AS OUR INVENTION
~~Patent Claims~~

1. Method for removal of ATM cells from an ATM communications device, having
a plurality of ATM cells, a plurality of which are in each case assigned to a common frame and which are stored in connection-specific queues, and having a first algorithm (PPD) by means of which, with the exception of the first and last ATM cell in a frame, all the newly arriving cells in the frame are removed,
a second algorithm (EPD) by means of which all the ATM cells in a frame, from the first to the last cell, are removed on arrival in a queue from the ATM communications device,
characterized
in that, at the start of the transmission process, a user indicates the maximum number of ATM cells per frame (MFS), using which number the ATM cells are transmitted,
in that in the situation where this number is exceeded, the associated frame is discarded or the first algorithm (PPD) is used.

2. Method according to Claim 1,
characterized
in that the length of the queue is controlled on a connection-specific basis.

3. Method according to Claim 1 or 2,
characterized
in that a constant value (MFS) is used per connection, which is a measure of the maximum frame size of the connection.

4. Method according to Claims 1 to 3,
characterized
in that, per connection, the number of the cells which have arrived for this connection since the end of the last frame for this connection is stored.

5. Method according to one of the preceding claims,
characterized
in that no high-priority cells are stored for a connection if the length of the queue for this connection is equal to a value (S_PPD_0) which is independent of this connection and which represents a measure for a fixed upper limit for the queue.

6. Method according to one of the preceding claims,
characterized
in that, if high-priority frames do not exceed the maximum frame size (MFS), the first algorithm (PPD) is not used for this frame.

7. Method according to one of the preceding claims,
characterized
in that a specific amount of the buffer store is reserved for high-priority cells per connection, and low-priority cells are not given any access to this storage area.

8. Method according to one of the preceding claims,
characterized
in that no low-priority cells are stored for a connection if the length of the queue for this connection is of at least one size S_PPD_1 = S_EPD_1 + MFS, where S_EPD_1 is independent of this connection and maximum frame size (MFS) depends on the connection.

9. Method according to one of the preceding claims,
characterized
in that high-priority frames are completely discarded if, on arrival of the first cell of a connection, less than the maximum frame size (MFS) remains in the logic queue for this connection or the logic queue exceeds the S_EPD_0 threshold and the status of the buffer store indicates that high-priority frames should be discarded.

10. Method according to one of the preceding claims,
characterized
in that high-priority frames are discarded if, on arrival of a cell which is neither the first nor the last cell in a froms, the logic valve queue has at most one free memory location, or if the logic queue length exceeds a connection-specific threshold value S_PPD_O, or if the filling level of the buffer store indicates that high-priority frames should be rejected, or if the length of the frame is greater than the maximum frame size (MFS) cells.

11. Method according to one of the preceding claims,
characterized
in that low-priority frames are completely discarded if, on arrival of the first cell of this connection, the length of the queue for this connection is greater than a variable S_PPD_1 or if the length of the queue is longer than a value S_EPD_1 and the status of the buffer store indicates that low-priority frames should be discarded.

12. Method according to one of the preceding claims,
characterized
in that some low-priority frames for a connection are discarded if, on arrival of a cell which is neither the first nor the last cell in the frame, the length of the queue for this connection is greater than a variable S_PPD_1 - 1 or the length of the queue is greater than a variable S_EPD_1 and the status of the buffer store indicates that low-priority frames should be discarded, or if the frame is longer than the maximum frame size (MFS).

13. Method according to one of the preceding claims,
characterized

in that the queue-specific value S_EPD_0 is greater than the value S_PPD_1 and less than the value PPD_0 - MFS,

the value S_PPD_0 representing a measure for a fixed upper limit for the queue.

14. Method according to one of the preceding claims,
characterized
in that, if the buffer store filling level is low, high-priority frames whose first cell has been transferred and whose frame length does not exceed the maximum frame size (MFS) are not subjected to the first algorithm (PPD).

15. Method according to one of the preceding claims,
characterized
in that if the buffer store filling level is low, low-priority frames whose first cell has been transferred and whose frame length does not exceed the maximum frame size (MFS) are not subjected to the first algorithm (PPD).

16. Method according to one of the preceding claims,
characterized
in that the EPD_flag and the FPD_flag are not set at the same time.

17. Method according to one of the preceding claims,
characterized
in that the values MFS + S_EPD 0 are stored and the variables EPD_FLAG, FPD_FLAG and current_Frame_length are controlled for each connection, the variable current_Frame_length being a measure of the length of the current frame.

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